

FIVE-YEAR REVIEW REPORT

**DAVIS (GSR) LANDFILL
GLOCESTER AND SMITHFIELD, RHODE ISLAND**

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 1 - NEW ENGLAND**

SEPTEMBER 2002

Executive Summary

Region 1 issued a No Action Record of Decision (ROD) for the Davis (GSR) Landfill in September 1997, based on a determination that the Site poses no unacceptable current or potential threat to human health or the environment. The ROD called for monitoring of private drinking water wells in the area for a period of at least five years to verify the absence of contamination. Issuance of the No Action ROD was a determination that EPA's response at this site is complete and that the site qualified for inclusion on the Construction Completion List.

Since EPA made the decision for No Action, the statutory requirements of CERCLA Section 121 for remedial actions are not applicable and no statutory or policy five-year reviews are required to be undertaken. The Region, has decided, however, to conduct this five-year review at its discretion. The assessment of this five-year review verified absence of site-related contamination in residential drinking water wells near the site. There are no new findings to indicate that additional response actions are warranted at the site.

**FIVE YEAR REVIEW
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1.0 Introduction

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by Section 121(C), and Section 300.430(f)(4)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), requires a five year review of remedial actions selected on or after October 17, 1986. Region 1 issued a No Action Record of Decision (ROD) for the Davis (GSR) Landfill in September 1997, based on a determination that the Site poses no unacceptable current or potential threat to human health or the environment. The ROD called for monitoring of private drinking water wells in the area for a period of at least five years to verify the absence of contamination. For this no action decision, no “statutory” or “policy” five-year reviews per CERCLA Section 121 are mandated. The Region, has decided, however, to conduct this five-year review at its discretion.

This report summarizes the results of this review which was conducted in accordance with OSWER Directive 9355.7-03B-P, *Comprehensive Five Year Review Guidance* (June 2001).

The objective of this review is to evaluate the monitoring data collected since the issuance of the No Action ROD in 1997, and to verify the absence of site-related contamination in residential drinking water wells.

2.0 Site Chronology

Background and History

The 58-acre Site includes a 21-acre landfill located in a semi-rural area off Tarkiln Road in the Towns of Glocester and Smithfield, Rhode Island. This Site is not Davis Liquid Waste or Davis Tire Pile Site, which are also located in Smithfield, Rhode Island. The GSR Landfill was first licensed by the State to receive municipal waste in 1974, and acceptance of waste ceased in 1982. In 1978, after the public expressed concern about operation of this privately owned landfill, the State declined to renew the landfill’s license citing numerous violations and failure to comply with previous orders. Numerous legal actions to close the landfill ensued, and the State Supreme Court ruled in favor of the State in 1982. At that time the landfill had stopped accepting solid waste, but the engineered cover was never constructed. As a result of several Volatile Organic Compounds being detected in the early 1980s in several on-site monitoring wells and one nearby residential well, the Davis GSR Landfill Site was added to the NPL in 1986.

From 1991 to 1993, after site access had been finally obtained, EPA conducted an extensive Remedial Investigation (RI) to determine the nature and extent of contamination and to assess

potential risks to human health and the environment. Results of this investigation concluded that the landfill appeared to be the source of various chemicals, the spread of which was limited to the immediate vicinity of the landfill with no evidence of contamination downgradient. No distinct plume of groundwater contamination was found to be emanating from the landfill. None of the residential well tests conducted periodically since the early 1980s, including the latest post-ROD testing in April of 2002, confirmed the presence of elevated levels of contaminants.

Remedial Actions

Based on the results of the RI and risk assessment, EPA issued a Record of Decision for the Site on September 29, 1997. The ROD documented the decision that no further remedial action was necessary at Davis GSR Landfill site because the conditions at the Site pose no unacceptable risks to human health or the environment. The State of Rhode Island concurred with the No Action decision. That determination also qualified the Site for inclusion on the Construction Completion List.

In August 1999, the Site was deleted from the NPL, following publishing of a Notice of Intent to Delete (NOID) in June 1999, and closure of a 30-day public comment period. EPA received comments from the Town of Glocester Town Council and RIDEM.

The Responsiveness Summary, prepared at the time of site deletion from the NPL, provided the following responses to the comments relevant to evaluations under this five-year review:

- Comment 1: Request for continuing residential well monitoring.

Response: The September 29, 1997 Record of Decision and the June 17, 1999 Notice of Intent to Delete incorporates residential well monitoring and review of the testing results in the vicinity of the Site for a period of at least five years with EPA's funding. EPA and the State plan to work cooperatively in carrying out this testing under the terms previously agreed upon.

- Comment 2: Recommendation to re-evaluate the site risks and potential action if the maximum contaminant level (MCL) for arsenic is changed in the near future.

Response: EPA agrees that future evaluations of the site, including the 5-year review, will include review of the then adopted MCL for arsenic and reevaluation of the site risks and potential action if warranted.

- Comment 3: Request to reevaluate a need for future response actions should the land use of the site or the adjacent vicinity be considered for development in the future and response actions determined to be necessary for the protection of human health and the environment and to ensure that the land and water on the site are safe for development

and consumption.

Response: EPA and the State are committed to continuing residential well monitoring and to evaluation of the data. As stated in the NOID, if new information becomes available which indicates a need for further remedial action, EPA may initiate such actions. EPA may also support further response activities which could be initiated by the State in the interest of public health.

- Comment 4: Recommendation to conduct five-year review.

Response: Although a statutory five-year review is not required at this site, EPA will support RIDEM in undertaking the five-year review as a matter of policy.

3.0 Five-Year Review Process

This is the first and the last five-year review for the site done at EPA's discretion. No statutory or policy five-year reviews are required for the site.

Data Review:

Residential well monitoring was initiated by the Rhode Island Department of Health (RIDOH) in the early 1980s, in response to residents' concerns, when little data existed about the extent of contamination associated with this Landfill. Investigations performed prior to issuance of the 1997 ROD, found no contaminant plume to be emanating from the landfill, and the low levels of contaminants present at the landfill were found to pose no unacceptable risk to human health or the environment. Approximately 20 residential wells within a 1 mile radius from the site have been monitored by EPA and the RIDOH for more than 10 years prior to the 1997 and none were found to be contaminated from the site.

As planned in the ROD, EPA and the State jointly conducted a residential well monitoring program under CERCLA authority to verify that no unacceptable risk occurs in the future. The State provided the results of this monitoring to the Towns and the owners of the tested wells. In five years, following the issuance of the ROD in September 1997, four rounds of testing of approximately 20 wells within the 1 mile radius was conducted in February 1999, April 2000, April 2001, and April 2002 for Volatile Organic Compounds (VOCs) and metals.

Residential drinking water wells were tested on Tarklin Road, Evans Road, Eddy Road, Mann School Road and Long Entry Road. Consistent with testing results in 1980s and 1990s, the latest results indicate no site related contamination in private residential wells downgradient from the site. However, similar to previous data, several tested wells in the area had inorganic compounds detected in excess of the Maximum Contaminant Levels (MCLs) for drinking water quality. The MCL is the maximum permissible level of a contaminant in water which is

delivered to any user of a public water system. These regulatory criterion were exceeded for lead (3 locations) and arsenic (4 locations); using the lead regulatory criteria of 15 ppb and new arsenic criteria of 10 ppb. On January 21, 2001 EPA lowered the MCL for arsenic from 50 ppb to 10 ppb. The effective date for this rule was February 22, 2002, with January 23, 2006 as the compliance date for water purveyors. Since the February 1999 testing, four of the tested wells exceeded this new arsenic MCL in one or more rounds of testing (with highest detection of 31 ppb). Similarly, three residential wells exceeded the MCL for lead, at levels ranging from 16 to 765 ppb.

All seven residential drinking water wells where lead and arsenic exceeded the regulatory criteria are located on Evans and Eddy Roads, west of the Davis GSR Site. There is a watershed divide between Davis GSR Site and the homes on these roads. Groundwater from the Site, flows east and southeast, discharging into the Nine Foot Brook and an unnamed stream in the headwaters of the Stillwater River. The homes on the Eddy and Evans Road are located in the headwaters of Shinscot Brook, west of that watershed divide. Based on the topography and hydrogeology of this area, it is unlikely that any groundwater from the site may be flowing toward Eddy and Evans Roads. Although the elevated levels of inorganics in these wells are not considered site-related, no other anthropogenic sources for these compounds are suspected to be present and both, arsenic and lead are likely to be found at naturally occurring levels. Throughout the testing program, EPA and RIDEM have shared results with Rhode Island Department of Health for distribution of testing results to individual home owners.

Document Review

The documents listed under the Site Specific Reference Section of this Five-Year Review were reviewed to help evaluate the effectiveness of the selected remedial action with respect to adequately protecting human health and the environment.

The site related documents, including all residential well testing data, are available for public review at the EPA Region I Office of Site Remediation and Restoration (OSRR) Records Center in Boston, MA, and the Davis GSR Landfill Site records repository, located at the East Smithfield Public Library, 50 Esmond Street, Esmond, RI.

Results of Site Visit

A site visit by EPA and RIDEM was conducted on June 11, 2002 for the purposes of this Five Year Review. No conditions indicating changes in the potential for adverse ecological and human health risks from site groundwater or other media were observed.

5.0 Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

The decision document for the site in the 1997 ROD which selected No Action decision. EPA has determined that no remedy is necessary to address the contamination at the Site since the site poses no unacceptable current or potential threat to human health or the environment. Monitoring of residential wells has been conducted over the last five years as contemplated by the ROD. Testing results verify absence of site-related contamination in residential wells near the site.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy still valid?

There have been no changes at the site that would affect the protectiveness of the No Action decision. On January 21, 2001 EPA lowered the MCL for arsenic from 50 ppb to 10 ppb. Sampling data collected from the residential wells were evaluated using the new arsenic MCL.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

There are no new findings to indicate that additional response actions are warranted at the site.

6.0 Issues, Recommendations and Follow-Up Actions

- In light of recently adopted new MCL for arsenic, one additional round of residential well testing similar to the last four sampling events, will be completed in year 2003 with EPA's funding. If these testing results show no new concerns, discontinue residential well testing under CERCLA authority.
- EPA's No Action ROD, deletion of the Site from the NPL, and discontinuing of testing under CERCLA authority does not limit in any way the local or State's authority and is not a determination that no action is warranted under other laws and regulations to regulate this former solid waste landfill.
- RIDOH may apply the policies they use for other areas with elevated naturally occurring inorganics in residential drinking water wells.

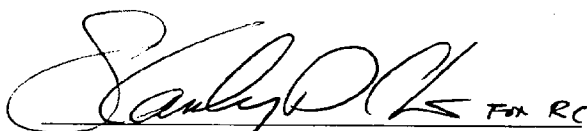
7.0 Protectiveness Statement

Long-term protectiveness of the 1997 No Action ROD was verified by conducting additional sampling and analysis of residential drinking water wells over the last five years. No site-related contaminants were found in the wells.

Because the No Action decision in the 1997 ROD for this Site remains protective, the site is protective of human health and the environment.

8.0 Next Review

This five-year review fulfills EPA's commitment to the State of Rhode Island to conduct evaluations of residential wells testing conducted over the last five years. No requirements for statutory or policy five-year reviews are applicable to this site and no additional five-year reviews will be conducted.

A handwritten signature in black ink, appearing to read "Richard Cavagnero", with the initials "RC" written to the right of the signature.

Richard Cavagnero, Acting Director
Office of Site Remediation and Restoration
EPA Region 1 - New England

9/6/02

Date

ATTACHMENT A

Photographs

June 11, 2002 Site Visit - Davis (GSR) Landfill Superfund Site

Photograph Number	Description
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| 1. | Entrance gate to the Davis GSR Site from Tarklin Road |
| 2. | Entrance Road to the Site from Tarklin Road |
| 3. | Solid waste off the entrance to the Site [1] |
| 4. | Solid waste off the entrance to the Site [2] |
| 5. | Landfill view [1] |
| 6. | Landfill view [2] |
| 7. | Landfill view [3] |
| 8. | View from the access road [1] |
| 9. | View from the access road [2] |

SITE SPECIFIC REFERENCE:

Remedial Investigation Report, September 1993, CDM

Record Of Decision, September 29, 1997, EPA Region 1

Residential Wells Sampling Plan, January 1999, EPA Region 1

Analytical Data Report, February 1999, EPA Region 1

Notice of Intent to Delete, June 17, 1999, EPA Region 1

Notice of Deletion, August 1999, EPA Region 1

Residential Wells Sampling Plan, April 2000, EPA Region 1

Analytical Data Report, June 2000, EPA Region 1

Field Sampling Plan for Private Well Sampling, March 2001, RIDEM

Analytical Data Report, April 2001, ESS Laboratory.

Field Sampling Plan for Private Well Sampling, March 2002, RIDEM

Analytical Data Report, May 2002, Premier Laboratory, LLC.



